UNITED STATES PATENT AND TRADEMARK OFFICE

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10/723,203	11/26/2003	Yohichi Inada	2271/71602	9048

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10/9/2008*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36 and 38* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,9-14, 20-25, 29-31, 35-36 and 38* is/are rejected.

7)☒ Claim(s) *5-8, 16-19, 26-28, 32-34* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

Response to Applicants Arguments/Amendments

Applicants Arguments/Amendments filed on 10/9/2008 have been entered and made of

record.

Applicants arguments/amendments with respect to 35 U.S.C. 112 have been fully

considered and have overcome the rejections.

Applicant's arguments/amendments with respect to the rejections under 35 U.S.C. 103

have been fully considered but are moot in view of new grounds of rejection.

Rejections Under 35 U.S.C. 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set
forth in section 102 of this title, if the differences between the subject matter sought to be patented and
the prior art are such that the subject matter as a whole would have been obvious at the time the
invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 9-10, 12-14, 20-21 are rejected under 35 U.S.C. 1033(a) as being

anticipated by Mukherjee US 2003/0123740 in view of Sethuraman et al. US 6,263,021.

Re claim 1 Mukherjee discloses An information compression apparatus which

compresses information and uses a DCT frequency conversion algorithm, comprising: a

plurality of block registers which store (note the data must be stored so that further

processing can be done see paragraph 41) block based multi-bit quantized data (note

the data is quantized see paragraph 41) converted from the information output from an quantization execution module (quantize paragraph 38);; a first control (note the system must have controller) mechanism which controls operations of said apparatus so as to perform a scanning operation for scanning (reverse zig-zag scanning paragraph 55) the plurality of block registers in a scan order and a search operation (finding a coefficient paragraph 57) for searching each block in the scan according to said scan order a valid coefficient (non-zero coefficient paragraph 57); and a data correction mechanism (modifies paragraph 30) to modify the valid coefficient (non-zero coefficient paragraph 30) found in the search operation of the block searched by the first control mechanism to an invalid coefficient (zero coefficient see paragraph 30) based on the correction level stored in the correction level register (energy threshold paragraph 79).

Mukherjee does not disclose a correction level register which presets a correction level indicating a number of data corrections and/or modifications. Sethuraman discloses a correction level register which presets a correction level indicating a number of data corrections and/or modifications (Specified number m column 4 lines 23-40) and modifying valid coefficients to invalid coefficients until a a number of valid coeffcients modified to invalid coefficients reaches the correction level preset in the correction level register. One of ordinary skill in the art could have easily modified Sethuraman to limit the number of coeffciants which could be set to zero, and the results a limit one the number of ccoeffciants set to be zero would have been predictable. Therefore it would have been obvious to one of ordinary skill in the art to modify Mukherjee with Sethuraman.

Re claim 2 Mukherjee further discloses wherein the valid coefficient is a coefficient having any coding amount except zero (not zero paragraph 57).

Re claim 3 Mukherjee further discloses wherein the scanning operation includes an inverse zigzag operation (see paragraph 55.)

Re claim 9 Mukherjee further discloses the information compression apparatus as defined in claim 1, wherein the apparatus uses a Huffman coding method (jpeg paragraph 31 note JPEG compression includes Huffman coding).

Re claim 10 Mukherjee further discloses wherein the apparatus uses a JPEG coding method (see paragraph 31).

Re claim 12-14 and 20-21 these claims are similar to claims 1-3 and 9-10 only using means for language however the claims recite is sufficient structure in the claim such that 35 U.S.C. 112 6th paragraph is NOT invoked. Furthermore due to similarity these claims are rejected for the same reasons as claims 1-3 and 9-10.

Re claim 23 Mukherjee discloses an information compression method for compressing information and using a DCT frequency conversion algorithm, comprising the steps of:; latching quantized data including valid coefficients and invalid coefficients into a block

register (note the quantized coefficients must be stored to perform further processing;

performing a search in an inverse zigzag scan order (see paragraph 57) of said

quantized data latched in said block register in step b to find one or more valid

coeffefficiants; modifying a valid coefficient found in step c to an invalid coefficient (push

the coefficient to zero paragraph 57); searching for and finding another valid coefficient

and modifying said another valid coefficient to the invalid coefficient (process is

repeated paragraph 61); continuously performing the inverse zigzag scan when the

number of valid coefficients modified to invalid coefficients is smaller than the

correction level in the presetting step (continuing until the threshold is exceeded

paragraph 79); and transferring the data of the block register to a coding module

(encoder paragraph 59) when the number of valid coefficients modified to invalid

coefficients reaches the correction level (note the coding is done after the modification).

Mukherjee does not disclose presetting a predetermined number of data corrections

and or modifications, counting a number of searched valid coefficients; incrementing the

number of valid coefficients by one; and where the correction level is the number of

modified coefficients counted in the counting step.

Sethuraman discloses presetting a predetermined number of data corrections and or

modifications (column 4 lines 23-37) ; counting a number of coeffciants valid coefficients

modified to invalid coefficients (column 4 lines 23-37 note that the number of

coefficients must be counted); incrementing by one the number of valid coefficients

modified to invalid coefficients(column 4 lines 23-37 note that the number of coefficients

must be counted); and where the correction level is the number of searched (examiner

interprets as modified) coefficients counted in the counting step (column 4 lines 23-37).
One of ordinary skill in the art could have easily modified Mukherjee to limit the number
of coefficients which could be set to zero, and the results a limit one the number of
coefficients set to be zero would have been predictable. Therefore it would have been
obvious to one of ordinary skill in the art to modify Mukherjee with Sethurman to reach
the aforementioned advantage.

Re claim 24 Mukherjee further discloses wherein when a valid coefficient is modified to
steps d and f valid coefficients smaller than a predetermined threshold value are
modified to an invalid coefficient (all coefficients selected are modified therefore all
coefficients smaller then any threshold are modified.)

Re claim 25 since examiner has interpreted claim 25 to not include a presearching step
due to the unclear claim there is no further limitation from claim 23 and claim 25 is
rejected with the same rejection.

Re claim 38 Mukherjee discloses all of the elements of claim 1 Sethurman discloses
wherein said correction level preset by said correction level register corresponds to a
number of data corrections (column 4 lines 23-40), and valid coefficients in said
quantized data stored in said plurality of block registers are modified to invalid

coefficients (column 4 lines 23-40) until the number of modifications reaches the

correction level preset in the correction level register (column 4 lines 23-40).

Claims 4, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Mukherjee and Seturaman in view of Kim US 5,793,893.

Re claim 4 Mukherjee discloses all of the elements of claim 1 Mukherjee does not

disclose further comprising a second control device configured to recieve multi bit

quantized data output from the quantized execution module before the multi-bit

quantized data is transmitted to the plurality of block registers and after said second

control device receives the multi,bit quantized data cause the first control mechanism to

start the search operation. While Mukherjee must have at least one control device, Kim

discloses a system with 2 control devices, i.e. a second control device (note the system

must have some main controller) which receives multi bit quantized data output from the

quantized execution module before the multi-bit quantized data is transmitted to the

plurality of block registers and causes the first control mechanism (masking control see

figure 1 note this controller controls only the masking i.e. the scanning and selecting

steps see claim 4) to start the search operation. The motivation to combine is to

"reduce the volume of transmission data in order to efficiently implement a low-bit rate

codec" (see column 2 lines 10-15.) Therefore it would have been obvious to one of

ordinary skill in the art to combine Mukherjee with Kim to reach the aforementioned

advantage.

Re claim 15 this claim is similar to claim 4 only using means for language however the

claims recite is sufficient structure in the claim such that 35 U.S.C. 112 6th paragraph is

NOT invoked. Furthermore due to similarity these claims are rejected for the same

reasons as claims 4.

Claims 29-31 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Mukherjee in view of Sethuraman in further view of common knowledge in the art.

Re claims 29-31 these claims recite computer code to perform the method of claims 23-

25. Mukherjee and Sethuraman disclose the method of claims 23-25 but does not

disclose the method of claims 23-25 preformed via a computer program, however,

examiner is taking official notice that it is notoriously well known to perform such

methods in a computer program and store them on CD's. The motivation to combine is

to easily distribute perform such methods on a device with a computer processor.

Therefore it would have been obvious to one of ordinary skill in the art to combine

Mukherjee and Sethuraman with common knowledge in the art to reach the

aforementioned advantage.

Re claims 35 these claims recite computer code to perform the method of claims 23 and

using a JPEG encoding method. Mukherjee and Sethuraman disclose the method of

claims 23 and JPEG (see paragraph 31) but does not disclose the method of claims 23

preformed via a computer program, however, examiner is taking official notice that it is

notoriously well known to perform such methods in a computer program and store them

on CD's. The motivation to combine is to easily distribute perform such methods on a

device with a computer processor. Therefore it would have been obvious to one of

ordinary skill in the art to combine Mukherjee and Sethuraman with common knowledge

in the art to reach the aforementioned advantage.

Claims 11 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Mukherjee and Sethuraman in view of Dick US 6,460,061

Re claim 11 Mukherjee discloses all of the elements of claim 1 Mukherjee does not

disclose wherein the apparatus uses a sound data coding method. However Dick

discloses wherein the apparatus uses a sound data coding method (column 7 lines 40-

50.) Note that dick discloses that the 2D DCT can be used to encode sound, therefore

one of ordinary skill in the art would be motivated to use the method of Mukherjee to

compression sound at a reduced bit rate see Mukherjee paragraph 30. Therefore it

would have been obvious to one of ordinary skill in the art to combine Mukherjee with

Dick to reach the aforementioned advantage

Re claim 22 this claim is similar to claim 11 only using means for language however the

claims recite is sufficient structure in the claim such that 35 U.S.C. 112 6th paragraph is

NOT invoked. Furthermore due to similarity these claims are rejected for the same

reasons as claims 11.

Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mukherjee in

view of Sethuraman in view of common knowledge in the art in further view of Dick.

Re claim 36 This claim is the same as claim 29 except for this time a sound data coding

method is used. Mukherjee Sethuraman and common knowledge in the art discloses all

of the elements of claim 29 (see rejection for claim 29), they does not disclose wherein

the apparatus uses a sound data coding method. However Dick discloses wherein the

apparatus uses a sound data coding method (column 7 lines 40-50.) Note that dick

discloses that the 2D DCT can be used to encode sound, therefore one of ordinary skill

in the art would be motivated to use the method of Mukherjee to compression sound at

a reduced bit rate see Mukherjee paragraph 30. Therefore it would have been obvious

to one of ordinary skill in the art to combine Mukherjee with Dick to reach the

aforementioned advantage.

Allowable Subject Matter

Claims 5-8, 16-19 26-28 and 32-34 are objected to as being dependent upon a

rejected base claim, but would be allowable if rewritten in independent form including all

of the limitations of the base claim and any intervening claims.

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Re claims 5,16, 26, 32 these claims contain allowable subject matter because the prior

art of record does not "move the addresses of the isolated valid coefficients…so that the

isolated valid coefficients are arranged consecutively"

Re claims 6 and 17 these claims contain allowable subject matter because the prior art

of record does not disclose "a plurality of logical or circuits…. Such that each of the

plurality of or circuits outputs one when any one of the block registers connected thereto

has a valid coefficient." Claims 7-9 and 18-19 contain allowable subject matter because

they depend from claims 6 and 17.

Re claims 27 and 33 these claims contain allowable subject matter because the prior art

of record does not disclose a "calculating step for calculating a total sum of coefficients

of block registers arranged along each scanning line corresponding to one of different

frequencies used in the DCT frequency conversion algorithm, and a start address

changing step for changing an address of the block register to start the inverse zigzag

scan." Claims 28 and 34 contain allowable subject matter because they depend from these claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEAN MOTSINGER whose telephone number is (571)270-1237. The examiner can normally be reached on 9-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571)272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jingge Wu/
Supervisory Patent Examiner, Art Unit 2624

Motsinger
1/4/2009